Coordination of Mesoscale Meteorological Research between ASL and European Groups

Principal Investigator : Professor R. P. Pearce

Contractor : University of Reading, U.K.

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SIXTH INTERIM REPORT
1st November 1991 - 31st January 1992

This is necessarily a brief report since there has been some delay in despatching data tapes from ASL to the various participants in the Mesoscale Model Comparison Project, necessitating a revision of the arrangements for the preliminary analysis of the results. These arrangements were that participants should return their results on floppy disks to ASL by 15th January. These would then be analysed by Mr. Meyers, Professor Pielke and myself at ASL during late January/early February and appropriate subsets of the results selected for the pre-workshop volume.

In the event, although the Phase 1 data tapes were despatched during August, the Phase 2 tapes were not despatched to participants until mid-December. This was due to difficulties encountered by ASL with their contractors dealing with the validation of the WIND experiment field data tapes. Each participating group is now being contacted to ascertain whether it can carry out the integrations and submit the results to ASL by mid-March. If this proves possible, the analysis of the results will be carried out at ASL during late March/early April. Hopefully arrangements to hold the workshop during 16-18th June will remain unchanged.

Two of the groups, headed by Dr. Gross at the University of Hanover and Dr. Alpert at the University of Tel Aviv, have completed their interactions for the Phase 1 data and submitted their results to ASL. The group at the UK Met Office under Dr. White hope to complete their work by early March, as does Dr. Yamada's group (collaborating with Dr. Henmi at ASL) and the ASL group under Mr. Meyers. Two groups who were originally hoping to participate in the project have now withdrawn - Dr. Clark at NCAR and Dr. Leoni at the Lawrence Livermore Laboratories. The reasons for this are primarily financial.

The number of participants is thus reduced from eight to six. However this reduction, although somewhat disappointing, should not prevent the project from providing information on the performance of mesoscale meteorological models of considerable value both to the US Army and the wider modelling community. As far as the Army is concerned, it will provide the most up-to-date assessment of model performance yet to be made available, enabling it to base its plans for future operational local area forecast models on the best possible modelling technology.

R. P. Pearce

Professor R. P. Pearce
23.01.92

FINAL REPORT

ARCTIC SCIENCE SUPPORT
UNDER
ONR CONTRACT N00014-88-K-0045

A. Heiberg

Polar Science Center, Applied Physics Laboratory
College of Ocean and Fishery Sciences, University of Washington

OBJECTIVES

The objective of our work under this contract was to assist the Office of Naval Research in implementing their research goals in the Arctic. Our primary obligations were to provide logistical support for a major field experiment, CEAREX, involving University of Washington and other U.S. and foreign investigators and to prepare for a second major field program, LeadEx.

These obligations involved assuming major responsibilities in the planning, coordination, and management of the field programs. These responsibilities included procuring logistical and scientific equipment and supplies, contracting for support services such as ships and aircraft, and hiring temporary personnel for support in the field.

ACCOMPLISHMENTS

CEAREX

The main activity during this contract period was support of the Coordinated Eastern Arctic Research Experiment (CEAREX). This major field program was staged from northern Norway and carried out in the Fram Strait region from August 1988 to June 1989. The objectives were to study the following mechanisms:

- heat, mass, and momentum fluxes in the upper ocean
- heat, moisture, and momentum fluxes in the atmosphere
- air–ice–ocean stress divergence
- ambient noise generation, scattering, and absorption.

The experiment was divided into three phases. Phase one involved ship-based research from an ice-strengthened Norwegian research vessel, the *Polar Bjorn*. The ship was allowed to freeze into the polar ice pack in the fall of 1998 and passively drifted with the moving ice until breaking out in January 1989, five months later.